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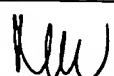
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,598	07/11/2003	Dean L. Kamen	1062/D77	2911
2101	7590	10/07/2004	EXAMINER	
BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618			ROYAL, PAUL	
			ART UNIT	PAPER NUMBER

3611

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/617,598	Applicant(s) KAMEN ET AL.	
	Examiner Paul Royal	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/04/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 4 March 2004 has been considered by the examiner.

Specification

2. The disclosure is objected to because of the following informalities: The description of the drawings refer repeatedly to "one embodiment of the invention" however the application appears to present more than "one embodiment" of the invention. Applicant should uniquely identify each different embodiment of the invention for example by indicating a "first embodiment", "second embodiment", "third embodiment", etc. of the invention. Note, terminology such as "another embodiment" of the invention may be considered inadequate, depending on usage, and should be avoided. Appropriate correction is required.

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Note, U.S. Patent 6,302,230, which applicant contends is to be incorporated into the instant application by reference, see Specification, page 3, lines 23-24, appears to incorporate essential material by reference, however, in any application which is to issue as a U.S. patent, essential material may not be incorporated by reference to (1) patents or applications published by foreign countries or a regional patent office, (2) non-patent publications, (3) a U.S. patent or application which itself incorporates "essential material" by reference, or (4) a foreign application, see MPEP 608.01(p) [R-2] Completeness, Section I, paragraph A.

To be clear, where U.S. Patent 6,302,230 incorporates essential material by reference, see column 6, lines 56-65, the further incorporation of the essential material into the instant applicant is improper. Applicant should clearly indicate whether or not applicant is relying on U.S. Patent 6,302, 230 for essential material, and if so where U.S. Patent does not itself rely on the incorporation of essential material relevant to the instant application or applicant should clearly indicate where the essential material is disclosed in the instant applicant without reliance on the incorporation by reference of US Patent 6,302,230.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "frame" of claim 7, and a "remote control device" of claims 9 and 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what applicant considers a "motorized drive arrangement". The instant invention merely presents that it includes "at least one

motorized drive” with no description of the arrangement of the drive within system therefore prior art having at least one motorized drive in any drive arrangement is understood to anticipate the instant invention.

5. Claim 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 7 each establishes a fixed point of reference for the first component which appears to be inconsistent with the first component being fixed relative to the surface.

Claim 6 recites the first component is fixed relative to the axle however the Specification states the first component may be an axle. Where the first component is an axle which is fixed relative to itself, the claim is unclear.

For claim 7, it is unclear what element applicant considers the “frame”.

Claim 8 recites the limitation "the distance sensor" in lines 1-3. There is insufficient antecedent basis for this limitation in the claim. As best understood, applicant intends claim 8 to depend from claim 3 because claim 3 introduces the “distance sensor”. In the interest of furthering prosecution on the merits, claim 8 will be treated as if it depends from claim 3, not claim 2.

Claim 9 recites the limitation “remote control device”. Applicant’s Specification and Drawings do not teach a remote control device which makes the claim limitation unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 4, 8, 11-13 and 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamen et al. (5,791,425).

Kamen et al. '425 teaches a transporter for transporting a load over a surface, the transporter comprising:

a support platform (461) for supporting the load, the support platform (461) characterized by a fore-aft axis, a lateral axis, and an orientation with respect to the surface, the orientation referred to as an attitude;

at least one ground-contacting element (463) coupled to the support platform in such a manner that the attitude of the support platform is capable of variation;

a motorized drive arrangement (462) for driving the at least one ground-contacting elements;

a sensor module (Sensor A, Sensor B) for generating a signal characterizing the attitude of the support platform; and

a controller (272) for commanding the motorized drive arrangement based at least on the attitude of the support platform or based on a position of a center of mass of the load relative to the at least one ground-contacting element;

a user interface (561), wherein the attitude of the support platform is capable of variation based on a signal generated by the user interface, wherein the controller commands motion in the fore-aft and lateral planes, such as pitching and rolling generated by turning the vehicle via the user interface.

For claim 4, note Sensor A senses the distance between a point on the platform and a position on the surface disposed at a specified angle with respect to the support platform.

For claim 8, note Kamen et al. teaches the sensor can be an ultrasonic distance sensor.

7. Claims 1-4,8, 11-13, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kishi et al. (4,722,547).

Kishi et al. teaches a vehicle including a pitch/roll sensor system comprising:
a support platform (Support Platform, see Examiner's annotated Figure 8) for supporting the load, the support platform characterized by a fore-aft axis, a lateral axis, and an orientation with respect to the surface, the orientation referred to as an attitude;
at least one ground-contacting element (GCE, see Examiner's annotated Figure 8) coupled to the support platform in such a manner that the attitude of the support platform is capable of variation;
a sensor module (13a,13b,14a, 14b) for generating a signal characterizing the attitude of the support platform; and

a controller (20) for commanding the motorized drive arrangement based at least on the attitude of the support platform or based on a position of a center of mass of the load relative to the at least one ground-contacting element,

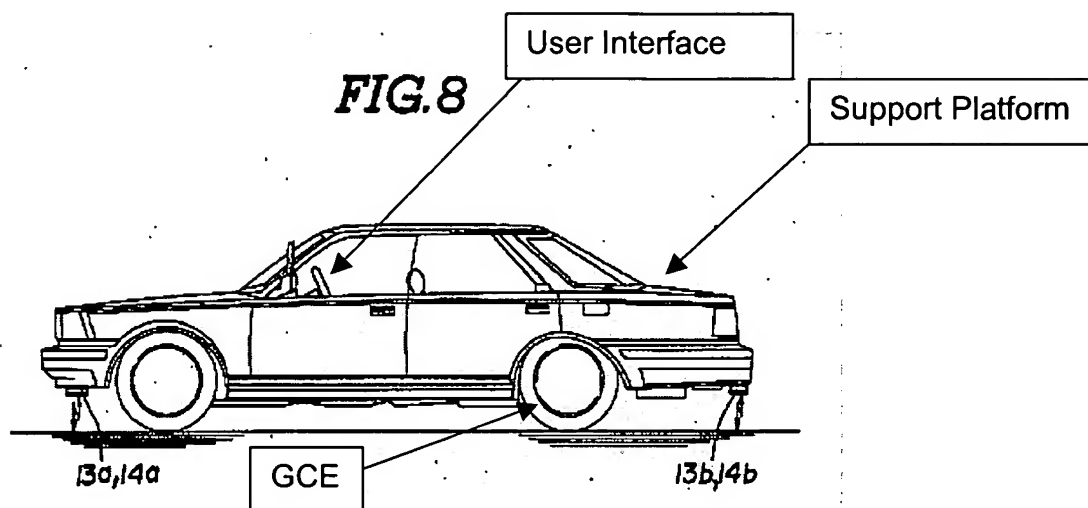
a user interface (User Interface, see Examiner's annotated Figure 8), wherein the attitude of the support platform is capable of variation based on a signal generated by the user interface, wherein the controller commands motion in the fore-aft and lateral planes, such as pitching and rolling generated by turning the vehicle via the user interface.

For claim 4, note the sensor module senses the distance between a point on the platform and a position on the surface disposed at a specified angle with respect to the support platform.

For claim 8, note Kishi et al. teaches the sensor can be an ultrasonic distance sensor.

Note where Kishi et al. teaches a system responsive to vehicle driving, it is inherently understood to include a motorized drive arrangement for driving the at least one ground-contacting elements.

Note the methods of controlling the vehicle of claims 17-20 are the method of operation of the invention disclosed in Kishi et al., as applied to claim 3, in view of Sugasawa.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamen et al. '425, as applied to claim 1, in view of Woods et al. (4,468,050).

Kamen et al. '425 teaches a vehicle including the claimed limitations except wherein one or more ground-contacting elements are flexibly coupled to the support platform in such a manner that the attitude of the support platform is capable of variation based on a position of a center of mass of the load relative to the at least one ground-contacting element.

Woods et al. teaches an adaptive suspension system (16) for use on vehicles wherein one or more ground-contacting elements (10) are flexibly coupled to a support platform (14) in such a manner that the attitude of the support platform (14) is capable of variation, to provide an improved vehicle suspension system which will automatically adjust itself during vehicle travel to provide optimum ride and handling characteristics under a wide variety of driving conditions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the transporter of Kamen et al. '425, to include an adaptive suspension system wherein one or more ground-contacting elements are flexibly coupled to a support platform in such a manner that the attitude of the support platform is capable of variation, as taught by Woods et al., to provide an improved vehicle suspension system which will automatically adjust itself during vehicle travel to provide optimum ride and handling characteristics under a wide variety of driving conditions.

9. Claims 5, 9-11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishi et al., as applied to claim 3, in view of Sugasawa (US 4,749,210).

Kishi et al., as applied to claim 3, teaches a vehicle having the claimed limitations except: a first component that remains in a substantially fixed vertical position relative to the surface,

wherein the at least one distance sensor senses the distance between a fiducial point on the platform and the first component,

wherein the attitude of the support platform is capable of variation based at least on a signal generated by a remote control device, and

the vehicle including a powered strut coupled to the platform, the powered strut capable of varying the attitude of the support platform based at least on the signal generated by the remote control device.

Sugasawa teaches a vehicle having a first component (axle) that remains in a substantially fixed vertical position relative to the surface, wherein an at least one distance sensor (16) which senses the distance between a fiducial point on the platform/vehicle body and the first component (axle), see column 8, lines 48 to column 9, line 27, and wherein the attitude of the support platform (vehicle body) is capable of variation based at least on a signal generated by a remote control device (170), and the vehicle including a powered strut (10) coupled to the platform, the powered strut capable of varying the attitude of the support platform based at least on the signal generated by the remote control device, to provide a suspension control system which allows adjustment of suspension characteristics or suspension control characteristics more precisely fitting the individual driver's feeling.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the vehicle of Kishi et al., as applied to claim 3, to include a first component that remains in a substantially fixed vertical position relative to the surface, wherein an at least one distance sensor which senses the distance between a fiducial point on the platform and the first component, and wherein the attitude of the support platform (vehicle body) is capable of variation based at least on a signal generated by a

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remote control device, the vehicle including a powered strut coupled to the platform, the powered strut capable of varying the attitude of the support platform based at least on the signal generated by the remote control device, as taught by Sugasawa, to provide a suspension control system which allows adjustment of suspension characteristics or suspension control characteristics more precisely fitting the individual driver's feeling.

Note the methods of controlling the vehicle of claims 17-20 are the method of operation of the invention disclosed in Kishi et al., as applied to claim 3, in view of Sugasawa.

Note, the sensor of Sugasawa, as applied above, is understood to be an additional sensor in the sensor module that can also include other types of sensors.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lu et al. teaches an attitude sensing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Royal whose telephone number is 703-308-8570. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

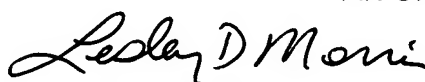
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P. Royal
9/30/04

Paul Royal
Examiner
Art Unit 3611



LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600